

MATERIALS ACCEPTANCE REQUIREMENTS

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|--|---------------------|--|-------------|---------------------|--|
| 401.03E End Section Grate for Culverts | VI | - | - | - | See Standard Plans for Sizes. |
| 401.03E Precast Concrete Headwalls | Gen Cert | - | - | - | 24" or less. For larger than 24" construct per Section 706 of Standard Specifications. |
| 404.02C Underdrain Outlet Endings | VI | - | - | - | See 909.07C and Standard Plans. |
| 501.02 Asphalt, Release Agents | VI | - | - | - | |
| NOTE: Must be approved by the project engineer. No fuel or oil based agents. | | | | | |
| 502.02B Overband Crackfill, Asphalt Rubber (Alt. 2) | QPL | - | - | - | Must be a Qualified Product (502.02B). |
| 502-SP Protective Polymer Coating For HMA Pavement at Snowmobile Trail Crossing | See Remark | None | - | - | See Special Provision. |
| 603.03B2 Adhesive Systems for Grouting Dowel Bars and Tie Bars for Full-Depth Concrete Pavement Repairs | QPL | - | - | - | Must be a Qualified Product (603.03B2). |
| NOTE: Use for grouting to existing concrete in the same direction of traffic in the same lane as the repair. For grouting lane ties (deformed bars positioned transverse to the direction of traffic located between traffic lanes) select from Adhesive Anchor Systems for Structural Anchors and Lane Ties (712.03J). | | | | | |
| 603.03B11 Bond Breaker Tape | VI | - | - | - | |
| 702.02A Standard Mortars and Grouts | VI | - | - | - | |
| 702.02B Non-Shrinking Mortar and Grout, Type H-1(Non-Metallic) Pre Mixed | QPL | - | - | - | Must be a Qualified Product (702.02B). |
| 702.02C Admixture for Expansive Grout, Type E-1 | Test Data Cert | - | - | - | |
| NOTE: Certification to include manufacturers recommended dosage per sack of cement. Include all General Certification documentation and sample of the cement with which it is being used with CV samples. | | | | | |
| 703 Prepackaged Hydraulic Fast Set Mortar | QPL | - | - | - | Must be a Qualified Product (703). |
| 706.03K4 Expansion Joint Devices for Bridges | See Remark | - | - | - | See Bridge Standard Plans for list of approved devices and details. |

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| 706.03S Penetrating Water Repellent (Protective Coating for Concrete) | QPL | - | - | - | Must be a Qualified Product (706.03S). |
| 707.02 Bushings for Pins and Link Plates | QPL | - | - | - | Must be a Qualified Product (707.02). |
| 708.03A Prestressed Concrete Bridge Beams | Fabrication Inspection & VI | - | - | - | MQAP Manual Section 4.04. VI must be conducted upon delivery to jobsite. |
| 710.03D Waterproofing Shotcrete | VI | - | - | - | |
| 712.03A1c Abrasive, Low Dusting | QPL | - | - | - | See Section 715.02. |
| 712.03D Epoxy Mastic | VI | - | - | - | |
| 712.03J Adhesive Anchor Systems for Structural Anchors and Lane Ties | QPL | - | - | - | Must be a Qualified Product (712.03J). |
| 712.03K Structure Expansion Anchors (Mechanical Expansion Anchors) | QPL See Remark | - | - | - | Must be a Qualified Product (712.03K). Pull-out testing is required per MQAP Manual Section 4.03. |
| 712.03L Mechanical Reinforcement Splicing | QPL See Note | 1 per project | 2 splices | - | See Note. Must be a Qualified Product (712.03L). |
| NOTE: The contractor must make test splices, witnessed by the Engineer, on the largest bar sizes that are to be spliced. See Bridge Field Services Advisory (BFSA) 2012-03. Test splice consists of 2 pieces of reinforcing bar joined by the coupler with 12 inches of bar exposed on each end of the coupler. | | | | | |
| 712.03Y Embedded Galvanic Anodes | QPL See Remark | - | - | - | Must be a Qualified Product (712.03Y). |
| 712.03X Grout Under Masonry Plates | VI | - | - | - | |
| 713.02B Sealant for Perimeter of Beam Repairs | QPL | - | - | - | Must be a Qualified Product (713.02B). |
| 715.02 Coating Systems for New Hanger Assemblies | QPL See Remark | - | - | - | Must be a Qualified Product (915). |

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| 715.02 Abrasives, Low Dusting | QPL | - | - | - | Must be a Qualified Product (715.02). |
| 716.02 Abrasives, Low Dusting | QPL | - | - | - | See Section 715.02. |
| 803.02B Detectable Warning Surfaces | QPL | - | - | - | Must be a Qualified Product (803.02B). |
| 804.01 Glare Screen | VI | - | - | - | Included in Concrete Spec. |
| 808.03C Temporary Fence Materials | VI | - | - | - | |
| 811.03D1 Waterborne, Liquid Pavement Marking Materials | QPL | - | - | - | Must be a Qualified Product. MQAP Manual Section 6.15. |
| 811.03D2 Low Temperature Waterborne, Liquid Pavement Marking Materials | QPL | - | - | - | Must be a Qualified Product. MQAP Manual Section 6.15. |
| 811.03D3 Regular Dry Paint, Liquid Pavement Marking Materials | QPL | - | - | - | Must be a Qualified Product. MQAP Manual Section 6.15. |
| 811.03D4 Cold Plastic Tape, Liquid Pavement Marking Materials | QPL | - | - | - | Must be a Qualified Product. MQAP Manual Section 6.16. |
| 811.03D5 Thermoplastic Liquid Pavement Marking Materials | QPL | - | - | - | Must be a Qualified Product. MQAP Manual Section 6.15. |
| 811.03D5 Thermoplastic, Blocks Rumble Strips and Snowmobile Crossings | QPL | - | - | - | Must be a Qualified Product. MQAP Manual Section 6.15. |
| 811.03D6 Thermoplastic, Sprayable, Liquid Pavement Marking Materials | QPL | - | - | - | Must be a Qualified Product. MQAP Manual Section 6.15. |
| 811.03D7 Polyurea, Modified Urethane Liquid Pavement Marking Materials | QPL | - | - | - | Must be a Qualified Product. MQAP Manual Section 6.15. |
| 901 Cement | Appr Mfr * | See Remark | 10 lb | 45 ton | See Special Instructions, Test Data Certification to CFS. See MQAP Manual Section 3.07. |
| 901.06 Ground Granular Blast-Furnace Slag (GGBFS) | Appr Mfr * | See Remark for Cement | 10 lb | - | See Special Instructions for Cement. Test Data Certification to Construction Field Services. |

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| 901.07 Fly Ash, Pozzolanix Admixtures for Concrete | Appr Mfr * | - | 10 lb | - | See Special Instructions for Cement. Test Data Certification to Construction Field Services. |
| 902 Prequalified Aggregate Sources See Current List of all Prequalified Aggregate Sources at Construction Field Services Web Page. Instructions to Construction Field Services web page: From MDOT home page (michigan.gov/mdot), click on Maps and Publications (left side), then click on Manuals, Guides, Advisories & Memos, then Materials Source Guide. The link to the <u>Prequalified Aggregate Source List</u> is under Additional Resources. Actual Current List of Prequalified Aggregate Sources web page address: http://www.michigan.gov/documents/mdot/MDOT_PrequalifiedAggregateSourceList_387538_7.pdf | | | | | See Special Instructions |
| 902 Non-Prequalified Aggregate Sources (see below) | | | | | |
| 902 Coarse Aggregates | Test | 1 per 1000 ton | 60 lb | 100 ton | |
| 902 Dense-Graded Aggregates | Test | 1 per 1000 ton | 60 lb | 500 ton | |
| 902 Open-Graded Aggregates | Test | 1 per 1000 ton | 60 lb | 100 ton | |
| 902 Granular Material Class I | Test | 1 per 1000 ton | 60 lb | 100 ton | |
| 902 Granular Material Class II (Subbase) and Class IIA | Test | 1 per 3000 cyd | 60 lb | 500 cyd | |
| 902 Class II (Abutment B. F.) | Test | 1 per structure | 60 lb | 100 cyd | |
| 902 Granular Material Class III | Test | 1 per 10,000 cyd | 60 lb | 500 cyd | |
| 902 Granular Material Class IIIA | Test | 1 per 1000 cyd | 25 lb | 100 cyd | |
| 902 Fine Aggregate | Test | 1 per 1000 ton | 25 lb | 100 ton | |

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|---|---------------------|--|-------------|---------------------|---|
| 902 Mineral Filler for HMA Mixtures | Test See Remark | 1 per project | 1 qt | 10 ton | Refer to Section 902.11 of the 2012 Standard Specifications. |
| 903.01 Air Entraining Admixtures | QPL | - | - | - | Must be a Qualified Product (903.01). |
| 903.02 Water Reducing and Water Reducing Retarding Admixtures for Concrete | QPL | - | - | - | Must be a Qualified Product (903.02). |
| 903.03 Latex Admixture for Concrete | Appr Mfr * | 1 per lot | 1 qt | - | |
| 903.04 Concrete Accelerators 1. Calcium Chloride 2. All Others | VI QPL | - - | - - | - - | For calcium chloride note the chemical composition. Other accelerators must be Qualified Products (903.04). |
| 903.06 Membrane Curing Compound | Test Data Cert | 1 per lot or batch | 1 qt | 200 gal | |
| NOTE: Curing compounds must not be used after ONE year from manufacture. Date of manufacture must be clearly printed on the outside of containers. | | | | | |
| 903.07A Interim Curing (Linseed Oil Based) | Test Data Cert | 1 per lot or batch | 1 qt | 50 gal | See Note for 903.06 above. |
| 903.07C Insulating Blanket | Test Data Cert | - | - | 10 sheets | |
| 903.07D Polystyrene Insulation | Test Data Cert | - | - | - | |
| 904.03A Asphalt Binder for HMA Mixtures | See Remark | See Remark | See Remark | - | See Special Instructions. |
| 904.03B Liquid Asphalt (MC) | Gen Cert | 1 per batch | See Remark | - | 1 gal from the top and 1 gal from the bottom of tank. |
| 904.03B Liquid Asphalt (RC-250) | Gen Cert | 1 per batch | 2 qt | 5 gal | |

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|--|---------------------------------|--|--------------------------|---------------------|---|
| 904.03C Emulsified Asphalt | Appr Mfr * See Remark | See Remark | See Remark | - | See Special Instructions. |
| 905.03 Bar Reinforcement (Uncoated) | Appr Mfr * | 1 per project per mfr per size | See Remark | 500 lb | 2 pcs. One 24 in. & one 36 in. Test Data Cert to Construction Field Services. |
| NOTE: Sample ID to include name of epoxy coating company, epoxy resin trade name and lot number, bar manufacturer and heat number. Sample size, 2 pieces, 1 of which is 24 in. and 1 of 36 in. | | | | | |
| 905.03 Bar Reinforcement (Epoxy Coated) 1. Bar 2. Epoxy Coating Companies 3. Epoxy Coating Material (905.03C) | Appr Mfr * Appr Mfr * QPL | 1 per project per mfr per size | See Note | 500 lb | 2 pcs. One 24 in. & one 36 in. Test Data Cert to Construction Field Services. Epoxy coating must be a Qualified Product (905.03C). |
| NOTE: Sample ID to include name of epoxy coating company, epoxy resin trade name and lot number, bar manufacturer and heat number. Sample size, 2 pieces, 1 of which is 24 in. and 1 of 36 in. | | | | | |
| 905.03D Bar Chairs and Wire Ties for Epoxy Coated Steel Reinforcement | VI | - | - | - | |
| 905.06 Welded Steel Wire Reinforcement (Mesh) | Appr Mfr * | 1 per project per mfr | See Remark | 500 syd | Test Data Cert to Construction Field Services. See Note. |
| NOTE: One piece, full width of fabric with two transverse wires. Longitudinal wires must extend 6 in. to 8 in. either side of transverse wires. Sampling not required when larger wire is less than 0.13 in. (w1.5) in dia. Include on sample ID the size that the wires are supposed to be. Sample may be folded or cut into approx. 3 ft. sections. If cut, pieces should be wired together and identified. | | | | | |
| 905.07 Strand for Prestressed Concrete | Appr Mfr * | 1 per heat | 2 pcs each 80 in long | - | Obtain sample 5 ft. from end of reel. Test Data Cert to Construction Field Services. |
| 905.08 Tendons for Post Tensioning of Box Beams - Prestressing Strand | Appr Mfr * See Remark | 1 per heat | 2 pcs each 80 in long | - | Sampling and testing may be waived if strand from same reel is tested for beam fabrication. Obtain sample at least 5 ft. from end of reel. Test Data Cert to Construction Field Services. |
| 905.08 Tendons for Post Tensioning of Box Beams - Bar | Test | 1 per heat per project | 2 pcs each 30 in long | - | Test Data Cert must be attached to Sample Identification form for lab testing. |
| 906 Structural Steel | Fabrication Inspection & VI | - | - | - | MQAP Manual Section 4.05. VI must be conducted upon delivery to jobsite. |
| 906.05 Foundation Piles: H Piling, Steel Shells and Pile Points | Test Data Cert | - | - | - | |

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|--|-------------------------------------|--|--|---------------------|---|
| 906.05 Pile Cutoffs | Gen Cert | - | - | - | |
| 906.06 Steel Sheet Piling | Gen Cert | - | - | - | |
| 906.07 High Strength Steel Bolts | Test | 1 per dia per length per heat per project | 3 each bolts, nuts & washers | - | Bolt, nut and washer Test Data Cert must identify the manufacturer and must be attached to the Sample ID. |
| 906.09 Shear Developers (Studs) | QPL or Test Data Cert See Remark | - | - | - | (906.09) Other stud shear developers may be used when the manufacturer provides Test Data Certification that the studs meet the requirements of AWS D1.5-96, all section 7. |
| 907.03A - C Woven Wire Fence (Woven Wire Fabric, Barbed Wire, Smooth Line Wire) | Test Data Cert | 1 per project per mfr | Full width of roll 5 ft 6 ft 4 ft | 400 ft | |
| 907.03D Woven Wire Fence (Steel Posts) | Test Data Cert | 1 per project per mfr | 1 post | 25 posts | |
| 907.03E Woven Wire Fence (Treated Wood Posts) | See Remark | - | - | - | See Section 912.07. |
| 907.03F Woven Wire Fence (Gates) | VI | - | - | - | |
| 907.04A Steel Chain Link Fence (Fabric) | Test Data Cert | See Remark | 5 ft full width of roll | 250 ft | 1 per height and/or mesh size, per project and 1 per mfr per project. |
| 907.04B Steel Chain Link Fence (Tension Wire) | Gen Cert | 1 per project per mfr | 3 ft | 500 ft | |

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| 907.04C Steel Chain Link Fence (Post for Fence and Gates), (Pedestrian Fence and Structure Fencing (Steel)) | Test Data Cert | 1 per project per mfr | 1 post | 25 posts | |
| NOTE: An alternative zinc/clear coat system will be allowed for pipe sections only. This alternative coating system shall comply with subsection 907.03D of the Standard Specifications for Construction. | | | | | |
| 907.04C Steel Chain Link Fence (Top Rail), ((Horz. Rail) (Pedestrian Fence)) | Test Data Cert | 1 per project per mfr See Remark | 5 ft | 250 ft | See Table 907-1 of 2012 Standard Specs for Construction |
| NOTE: An alternative zinc/clear coat system will be allowed for pipe sections only. This alternative coating system shall comply with subsection 907.03D of the Standard Specifications for Construction. | | | | | |
| 907.04D & E Steel Chain Link Fence (Gates, Fence Fittings and Hardware) | VI | - | - | - | |
| 907.05A High Tensile Wire Fence (Wire) | Test | 1 per project per mfr | 3 ft | 250 ft | |
| 907.05B High Tensile Wire Fence (Treated Wood Posts) | Appr Mfr * or Tested Stock | Each charge | 22 cores | 25 posts | See Note, General Cert to Construction Field Services. |
| NOTE: All post must be treated except Northern White Cedar. General Certification document required for Northern White Cedar in lieu of approved manufacturer. | | | | | |
| 907.05C High Tensile Wire Fence (Hardware) | VI | - | - | - | |
| 907.06 Protective Fence | VI | - | - | - | |
| 908 Castings, Manhole 908.03 Malleable Iron 908.04 Steel 908.05 Gray Iron | VI | - | - | - | |
| 908.05 Alternate, Adjustable Gray Iron Castings for Manholes, Drainage Structures, and Covers | QPL | - | - | - | Must be a Qualified Product (908.05). |
| 908.07 Sheet Lead | Gen Cert | - | - | 25 sft | |
| 908.08 Sheet Copper | Gen Cert | 1 per consignment | 13 in square or equivalent area | 25 sft | May be accepted in field if weight requirements can be documented. |

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|---|----------------------------|--|--|---------------------|---|
| 908.09A Tubing, Steel Railings Base Plate, Angle, and Post Elements (Galvanized) | Tested Stock See Remark | 1 per heat per project | 1 base plate, 1 post 18 in length | - | Test Data Cert document must be attached to the sample ID. |
| 908.09B Tubing, Steel Railings Rail Elements (Tube) (Galvanized) | Tested Stock See Remark | 1 per heat per project | 36 in long, galv | - | Chemical analysis must include silicon. Test Data Cert document must be attached to the sample ID. |
| 908.09C Tubing, Steel Railings Hardware (Anchor Studs) | Test | 1 per heat per diameter per project | A bolt, nut, washer, coupling and base plate, if applicable | - | |
| 908.10 Hardware for Timber Construction | VI | - | - | - | |
| 908.11A Guardrail, Steel Beam Elements, End Sections | Appr Mfr * | 1 per project per mfr | 1 piece at least 1 ft length | 125 ft | Including Anchorage, Bridge, Shoes, Departing End Terminals. Test Data Cert to Construction Field Services. |
| 908.11A Guardrail Approach Terminals | Appr Mfr * | - | - | - | Test Data Cert to Construction Field Services. |
| 908.11B & C B. Hardware C. Steel Sleeves, Soil Plates, Bearing Plates, Backup Plates | VI | - | - | - | Item supplied by guardrail supplier. |
| 908.11B Wire Rope | Gen Cert | - | - | - | |
| 908.12 Steel Posts for Beam Guardrail | Appr Mfr * | 1 per 1000 posts or fraction thereof | 1 post | 25 posts | Test Data Cert to Construction Field Services. |
| 908.13 Reflective Washers | VI See Remark | - | - | - | Inspect galvanizing, dimensions and type of sheeting. |
| 908.14 Anchor Bolts, Anchor Studs, Anchor Rods and Anchor Base Plates | Test*** See Remark | 1 per heat per diameter per project | 1 bolt, nut, washer, coupling and base plate if applicable | - | Non MDOT Standard Plan Bolts require Shop Drawings along with the Test Data Cert document. *** For cantilever foundations: 1 per heat per dia per foundation, max 3 per project. |

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| 909.01 Adjusting Rings for Manholes and Drainage Castings, (Alternative Materials and Recycled Rubber) | QPL | - | - | - | Must be a Qualified Product (909.01). |
| 909.03 Watertight Joint Systems | QPL | - | - | - | Must be a Qualified Product (909.03). |
| 909.03 Gasket, Compression (O-Rings) | VI | - | - | - | Part of Watertight Joint System. |
| 909.03 Gasket, External Rubber Type | VI | 1 per lot or shipment | 18 in length full width of gasket | - | Part of Watertight Joint System. |
| 909.04A Reinforced Concrete Pipe | Appr Mfr * | 1 percent of number of pcs of each size | See Remark | 5 pieces of 42 in or smaller | See Special Instructions. |
| 909.04B Reinforced Concrete Elliptical Pipe | Appr Mfr * | 1 percent of number of pcs of each size | See Remark | 5 pieces of 42 in or smaller | See Special Instructions. |
| 909.04C Non-Reinforced Concrete Pipe | Appr Mfr * | See Remark | See Remark | 10 pcs | See Special Instructions. |
| 909.04D Precast Concrete Box Sections | Appr Mfr * See Remark | - | - | - | Spans from 12-20 ft, QA inspection may be required. Spans greater than 20 ft. require QA inspection. Box = 4 sided. See MQAP Manual section 3.10. |
| 909.04E Precast Concrete End Section for Culverts and Sewers | Appr Mfr * | 1 percent of number of pcs | Full size units | 10 pcs | Strength test by coring or cylinders, VI dimensions and conditions. Test for air content. . |
| 909.04G Precast Concrete Three-Sided or Arch Culverts | Appr Mfr See Remark | - | - | - | Spans from 12-20 ft, QA inspection may be required. Spans greater than 20 ft. require QA inspection. See MQAP Manual section 3.10. |
| 909.05A Corrugated Steel Pipe | Appr Mfr * | See Remark | See Remark | - | See Special Instructions. General Cert to Construction Field Services. |
| 909.05A1 Corrugated Steel Sheets (Galvanized) | Gen Cert | See Remark | See Remark | - | See Special Instructions. |

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| 909.05A1 Polymer Coating, Galvanized Corrugated Steel Pipe | QPL | - | - | - | Coating must be from Qualified Products List (909.05A1). |
| 909.05A4 Coupling Bands | Gen Cert | - | - | 5 pcs | |
| 909.05B Corrugated Aluminum Alloy Sheet | Gen Cert | See Remark | See Remark | 25 sheets | See Special Instructions. |
| 909.05B Corrugated Aluminum Alloy Pipe | Gen Cert | 1 per 1000 ft | See Remark | 250 ft | Sample Size: A 6 in by 3 in (minimum) section cut from the end of the pipe avoiding the seams. Do not damage coating. |
| 909.05C Steel End Section | Gen Cert | - | - | 4 pcs | |
| 909.05D 1. Steel Pipe (Jacked-in-Place) | Gen Cert | - | - | - | |
| 909.05D 2. Casing, Steel Pipe | VI | - | - | - | |
| 909.06 1. Corrugated Polyethylene Pipe (CPE/HDPE), (Smooth Lined Type S) | Test or Tested Stock if ≥ 12 in. dia | ≥ 12 in. dia 1 per 1000 ft straight lengths | See Remark | 12 in. dia and over, 100 ft | Over 12 in. dia- one 10 ft length and one 6 ft length plus coupling. See Special Instructions. |
| 909.06 2. Corrugated Polyvinyl Chloride (CPV) Pipe | Test | 1 per 1000 ft straight lengths | See Remark | 12 in. dia and over, 100 ft | Over 12 in. dia- one 10 ft and one 6 ft. length plus coupling. |
| 909.06 3. Class B (CPE/HDPE & CPV) | QPL See Note | - | - | - | Must be a Qualified Product (909.06). |
| NOTE: Watertight Joint Systems (909.03) and Pipe (401 & 402; Class B Bury) must be listed on QPL. Pipe (909.06) must be accepted by "Test" or "Tested Stock" for use on project. | | | | | |
| 909.06 4. Smooth Polyvinyl Chloride (PVC) Pipe and Fittings for Sanitary Sewer | VI | 1 per 6000 ft | 1 piece, 5 ft in length | - | If bell and spigot joint, sample from spigot end. |
| 909.07A Pipe for Underdrains Smooth Perforated Plastic Pipe (PVC) | Test | 1 per 2500 ft or fraction thereof | 5 ft length | 250 ft | |
| 909.07B Pipe for Underdrains Corrugated Plastic Tubing (Perforated and Non-Perforated) (Wrapped and Non-Wrapped) | Appr Mfr * 4-, 6-, or 8- in dia | 1 per 5000 ft sample from coils | See Remark | 250 ft | Sample Size, one 10 ft length plus coupling. For perforated tubing wrapped in fabric, tie fabric securely in place before cutting sample. |

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|---|----------------------|--|-------------|--|---|
| 909.07C Outlet Pipe for Underdrains 1. Polyvinyl Chloride (PVC) Pipe | Test | 1 per 2500 ft or fraction thereof | 5 ft length | 250 ft | See 404.02C for Underdrain Outlet Endings. |
| 909.07C Outlet Pipe for Underdrains 2. Corrugated Steel Pipe | Appr Mfr * | See Remark | See Remark | - | See Special Instructions for 909.05A, Test Data Cert to Construction Field Services. See 404.02C for Underdrain Outlet Endings. |
| 909.07C Outlet Pipe for Underdrains 3. Corrugated Aluminum Alloy Pipe | Gen Cert | 1 for 1000 ft | 6 in x 3 in | 250 ft | See 404.02C for Underdrain Outlet Endings. See 909.05B. |
| 909.08A Bridge Deck Downspouts | VI | - | - | - | |
| 909.08B Culvert, Downspouts 1. Corrugated Steel Pipe | Appr Mfr * | See Remark | See Remark | - | See 909.05A Corrugated Steel Pipe. Test Data Cert to Construction Field Services. |
| 909.08B Culvert, Downspouts 2. Corrugated Aluminum Alloy Pipe | Gen Cert | 1 per 1000 ft | 6 in x 3 in | 250 ft | See 909.05B. |
| 909.08B Culvert, Downspouts 3. Corrugated Polyethylene Pipe (Corrugated Lined Type C) (CPE/HDPE) | Test | See Remark | See Remark | <12 in. dia up to 250 ft >12 in. dia up to 100 ft | See 909.06 (1) |
| 909.08C Bridge Deck Drain Extensions (Polyethylene) | Gen Cert | - | - | - | |
| 909.09 Cold Applied Pipe Joint Sealer (Mastic) | Test | 1 per shipment from a single container | 1 qt | 10 gal | |
| 909.10 Drainage Marker Post | See Delineator Posts | - | - | - | |
| 910.03A Geotextiles 1. Blankets 2. Filter Bags | Test Data Cert | See Remark | See Remark | See Remark | See Special Instruction 910.03. |
| 910.03A Knitted Sock Pipe Wrap | See Remark | - | - | - | See 909.07B Certified with Corrugated Plastic Tubing. |

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| Spec. No. and Material Name | Basis of Acceptance | Sample Frequency If Required by the Engineer** | Sample Size | Maximum VI Quantity | Remarks (QPL Reference) |
|---|----------------------------|--|---------------------------------------|---------------------|---|
| 910.03B Liner for Rip-Rap | Test Data Cert | See Remark | See Remark | See Remark | See Special Instruction 910.03. |
| 910.03B Liner for Heavy Rip-Rap | Test Data Cert | See Remark | See Remark | See Remark | See Special Instruction 910.03. |
| 910.03C Separator/Stabilization Geotextile | Test Data Cert | See Remark | See Remark | See Remark | See Special Instruction 910.03. |
| 910.03D Geogrids | Test | 1 per type per project | 1 pc 6 ft long full roll width | - | Sample must be <u>rolled</u> not folded. |
| 910.04 Silt Fence; (Geotextile Fabric only) | QPL | - | - | - | Must be a Qualified Product (910.04). |
| 910.05A Prefabricated Drainage System | Appr Mfr * | 1 per 10,000 ft or less | 1 pc 6 ft long plus 3 syd filter-wrap | - | Test Data Cert must be attached to sample ID Form. |
| 910.05B Wall Drain | Test | 1 per 1000 ft or less | 1 pc 6 ft long plus 3 syd filter-wrap | 100 sft | |
| 911 Water | Test See Remark | 1 per source | 1 qt | - | Water approved for drinking by the Michigan Dept of Public Health may be used without sampling and testing. |
| 912.05 Structural Timber and Lumber | Appr Mfr * | Each Charge | 22 cores See Remark | - | 48 cores if treatment is creosote. General Cert to Construction Field Services. |
| 912.06 Timber Piles | VI | - | - | - | |
| 912.07 Treated Wood Fence Posts | Appr Mfr * or Tested Stock | Each Charge | 22 cores | 25 posts | See Note below. Cedar post need not be treated. General Cert to Construction Field Services. |
| NOTE: All post must be treated except Northern White Cedar. General Certification document required for Northern White Cedar in lieu of approved manufacturer. | | | | | |
| 912.07B Guide Posts, Guard and Mail Box Posts | Appr Mfr * | Each Charge | 22 cores | 25 posts | Cedar post need not be treated. General Cert to Construction Field Services. |
| NOTE: All post must be treated except Northern White Cedar. General Certification document required for Northern White Cedar in lieu of approved manufacturer. | | | | | |

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| Spec. No. and Material Name | Basis of Acceptance | Sample Frequency If Required by the Engineer** | Sample Size | Maximum VI Quantity | Remarks (QPL Reference) |
|---|----------------------------|--|--------------------|---------------------|---|
| 912.08 Wood Posts and Blocks for Guardrail and Highway Signs (Dimension Sawed) | Appr Mfr * or Tested Stock | Each Charge | 22 cores | - | Cedar post need not be treated. General Cert to Construction Field Services. |
| NOTE: All post must be treated except Northern White Cedar. General Certification document required for Northern White Cedar in lieu of approved manufacturer. | | | | | |
| 912.08Q Recycled Plastic or Rubber Guardrail Offset Blocks | QPL | - | - | - | Must be a Qualified Product. May only be used on Steel Posts (912.08Q). |
| 912.09 Timber for Rustic Construction | Gen Cert | - | - | - | |
| 913.03 Clay and Sand Lime Brick and Block | Test | 1 per 250,000 or fraction thereof | 6 pcs | 1000 pcs | |
| 913.03C Concrete Brick | Test Data Cert | See Remark | 6 pcs | 1000 pcs | 1 from each 10,000 bricks or fraction thereof; 2 from lots more than 10,000 to 100,000; 3 from each lot over 100,000. |
| 913.05 Concrete Block | Test Data Cert | See Remark | 4 pcs | 1000 pcs | One from lot of 10,000 or fraction thereof; 2 from lots more than 10,000. |
| 913.06 Precast Reinforced Concrete Units for Drainage Structures | Appr Mfr * | 1 percent per size | See Remark | 10 pcs total | Submit QA cylinder test results and core samples. Submit sample 1-3 sq.in. from wall of unit if absorption is required. |
| 913.07 Precast Concrete Bases, for Drainage Structures | Appr Mfr * | 5 percent of total | - | 10 pcs total | |
| 913.08 Structural Tile | Test | 1 per proj. | 6 tiles | 1000 tiles | |
| 913.09 Slope Pavement Blocks | Appr Mfr * | 1 per 25,000 | 6 blocks | 1000 pcs | |
| 914.03 Bituminized Fiber Joint Filler | Test Data Cert | 1 per 1000 sft or fraction thereof | 2 ft See Remark | 150 sft | Sample for structure to be at least 5 in. wide. ¼ in. filler need not be sampled. |
| 914.03B Recycled Rubber Joint Filler | QPL | - | - | - | Must be a Qualified Product (914.03B). |
| 914.04A Hot-Poured Joint Sealant | Test or Tested Stock | 1 per batch from a single container | 5 lb. | 100 lb | Do not submit melted samples. |

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| Spec. No. and Material Name | Basis of Acceptance | Sample Frequency If Required by the Engineer** | Sample Size | Maximum VI Quantity | Remarks (QPL Reference) |
|---|----------------------|--|----------------|---------------------|---|
| 914.04B Backer Rod for Use with Hot-Poured Joint Sealant | VI | - | - | - | |
| 914.05 Epoxy Binder, For Joint Spall Repair | Test or Tested Stock | 1 per lot or batch number | See Remark | 5 gal | See Special Instructions. |
| 914.06 Epoxy Resin Adhesive and Temporary Seal (Crack Injection) | QPL | - | - | - | Must be a Qualified Product (914.06). |
| 914.07 Transverse Pavement Joints 1. Dowel Bars | Appr Mfr * | 1 per project per mfr | 1 bar | 240 bars | Test Data Cert to Construction Field Services. Epoxy coating must be a Qualified Product (905.03C). |
| 2. Dowel Baskets (Load Transfer Assemblies) | Appr Mfr * | 1 per 3000 assemblies or fraction thereof | Full size unit | 20 assemblies | Bond Release Agent must be a Qualified Product (914.07A). See Special Instructions 914.07. |
| 914.07A Coatings for Dowel Bars 1. Epoxy Coating Companies | Appr Mfr * | 1 per project per mfr | 1 bar | 240 bars | Test Data Cert to Construction Field Services. |
| 2. Epoxy Coating Material | QPL | - | - | - | Coating must be a Qualified Product (905.03C). |
| 3. Bond Release a. Bituminous Material b. Alternate Bond Release Agents | Gen Cert QPL | - - | - - | 20 gal max - | Must be a Qualified Product (914.07A) or meet Standard Spec 914.07A. |
| 914.07C Dowel Bar Expansion Caps | VI | - | - | - | Caps must conform to Standard Plan R-40 Series. |
| 914.08 End-of-Pour Joint Devices | VI | - | - | - | |
| 914.08 Deformed Bars 1. Bars 2. Epoxy Coating | Appr Mfr * QPL | 1 per project per mfr | - | 500 lb | Test Data Cert to Construction Field Services. Epoxy Coating must be Qualified Product (905.03C). |
| 914.09 Straight and Bent Tie Bars for Longitudinal Pavement Joints (Lane Ties) 1. Bars 2. Epoxy Coating | Appr Mfr * QPL | 1 per project per mfr | 2 bar | 500 lb | Test Data Cert to Construction Field Services. Coating must be a Qualified Product (905.03C). See Note. |

NOTE: Epoxy Coating must be a Qualified Product. Sample ID to include name of Coater, Bar manufacturer, Resin manufacturer, and Resin trade name.

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| Spec. No. and Material Name | Basis of Acceptance | Sample Frequency If Required by the Engineer** | Sample Size | Maximum VI Quantity | Remarks (QPL Reference) |
|---|---------------------------------|--|-------------|---------------------|--|
| 914.10 Bolts for Structure Expansion Anchors | Test | 1 per 5000 pcs or fraction thereof | 1 bolt | 250 units | |
| 914.11 Preformed Waterproofing Membrane and Joint Waterproofing Membrane | QPL See Remark | - | - | - | Must be a Qualified Product (914.11). Do not use on Treated Wood Materials. |
| 914.12 Elastomeric Bearing Pads | Test Data Cert See Remark | - | - | - | Show Test Result for Shear Modulus, ASTM D4014. |
| 915 Coating Systems for Steel Structures, Hanger Assemblies and End Diaphragms | QPL | - | - | - | Must be a Qualified Product (915). |
| 916.01A Cobblestone | VI | - | - | - | |
| 916.01C Riprap | VI | - | - | - | |
| 916.02 Silt Fence 1. Fabricated Fence 2. Fabric (see 910.04) NOTE: Sample to include identifying markings of fabricator. Indicate on sample ID description of markings. Note where markings were found. | Appr Mfr * QPL | See Remark | See Remark | 500 ft | General Certification to Construction Field Services 1 sample for the first 3000 ft or fraction thereof; 1 sample for each additional 10,000 ft or fraction thereof; 1 piece 8 ft long by full fence height include 2 attached posts and lath. As per 910.04 of Standard Specifications, fabric must be from the Qualified Product List (910.04). |
| 917.03 Nursery Stock | VI | - | - | - | |
| 917.04 Tree Wrapping Material | VI | - | - | - | |
| 917.05 Balling Material | VI | - | - | - | |
| 917.06A Wire for Bracing and Guying | VI | - | - | - | |
| 917.06B Hose for Bracing and Guying | VI | - | - | - | |
| 917.06C Stakes for Bracing and Guying | VI | - | - | - | |
| 917.08 Compost | VI | - | - | - | |

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| Spec. No. and Material Name | Basis of Acceptance | Sample Frequency If Required by the Engineer** | Sample Size | Maximum VI Quantity | Remarks (QPL Reference) |
|---|-----------------------|--|---------------------------------------|---------------------|--|
| 917.10 Chemical Fertilizer for Grass Seed | VI See Remark | - | - | - | Provide the bag label, showing the guaranteed analysis. |
| 917.12 Grass Seeding Mixtures Grass Seed Varieties | Appr Mfr * QPL | 1 per lot per shipment | ¼ lb | 100 lbs | General Cert to Construction Field Services. Varieties of seed must be Qualified Product (917.12). See Special Instructions. |
| 917.13 Sod | VI | - | - | - | |
| 917.13A Pegs for Sodding | VI | - | - | - | |
| 917.14 Mulching Materials for Nursery Stock | VI | - | - | - | Only shredded bark, wood chips not allowed. |
| 917.15B1 & 2 High Velocity Mulch Blankets and Standard Mulch Blanket | QPL | - | - | - | Must be a Qualified Product (917.15B 1 & 2). High velocity - netting 2 sides. Standard - netting 1 side. |
| 917.15C Mulch Anchoring - Latex, Recycled Newsprint, Wood Fiber, Guar Gum, Other Tackifiers | QPL | - | - | - | Must be a Qualified Product (917.15C). |
| 917.16 Weed Control (Herbicides) | Test Data Cert | - | - | - | |
| 918.01 Flexible Metal Conduit | VI | - | - | - | |
| 918.01A Electrical Conduit, Rigid (Galvanized Steel) | Gen Cert | See Remark | 6 ft, include coupling, if applicable | 400 ft | 1 sample for 2500 ft or fraction thereof; 2 samples over 2500 to 10,000 ft; 1 sample for each additional 10,000 ft. |
| 918.01B & C Electrical Conduit (Polyvinyl Chloride) Schedule 40 and 80 | Gen Cert | See Remark | 6 ft sample w/ bell end incl coupling | 400 ft | 1 sample for 2500 ft or fraction thereof; 2 samples over 2500 to 10,000 ft; 1 sample for each additional 10,000 ft. |
| 918.01D & E Electrical Conduit (Polyethylene/HDPE) Schedule 40 and 80 | Gen Cert | See Remark | See Remark | 400 ft | 1 sample for 2500 ft or fraction thereof; 2 samples over 2500 to 10,000 ft; 1 sample for each additional 10,000 ft; 6 ft plus a separate section consisting of 2- 18 in. long pcs. connected by the joint. |

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| Spec. No. and Material Name | Basis of Acceptance | Sample Frequency If Required by the Engineer** | Sample Size | Maximum VI Quantity | Remarks (QPL Reference) |
|--|-----------------------------|--|--|---------------------|---|
| 918.01F Electrical Conduit (Rigid Fiberglass) | Gen Cert | See Remark | 6 ft sample w/ bell end incl. coupling | 400 ft | 1 sample for 2500 ft or fraction thereof; 2 samples over 2500 to 10,000 ft; 1 sample for each additional 10,000 ft. |
| 918.02 Grounding System | VI | - | - | - | |
| 918.02C Grounding Rods | VI | - | - | - | |
| 918.03 Electrical Cable | See Note | - | - | - | |
| NOTE: Suitability and compliance with specifications will be determined by the agency responsible for maintaining the system. This agency shall provide the project engineer with a memo or other appropriate form indicating that the inspection (including review of Test Data Cert) has been made and that the material is acceptable. | | | | | |
| 918.06 Precast Concrete Handholes and Manholes for Electrical and Telephone Connections | Appr Mfr * | 1 percent per size | - | 10 pcs | General Cert to Construction Field Services. |
| 918.06D Light Weight Composite Handholes | QPL | - | - | - | Must be a Qualified Product (918.06D). |
| 918.08 Light Standards | Test Data Cert & VI | - | - | - | VI must be conducted upon delivery to jobsite. |
| 918.08C Light Standards, Frangible Transformer Bases | QPL | - | - | - | Must be a Qualified Product (918.08C). |
| 918.09 Luminaries | Gen Cert | - | - | - | |
| 918.10A Tower Lighting Units | Fabrication Inspection & VI | - | - | - | MQAP Manual Section 4.10. VI must be conducted upon delivery to jobsite. |
| 918.11A Guy Wire | Test | 1 per size | 3 ft | - | |
| 919 Steel Sleeves for Wood Posts | Gen Cert | - | - | - | |
| 919.02 Signs (Permanent) | See Remark | - | - | - | See Joint Construction IM 1997 C-S. General Cert must be attached and inspected at project site. |

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| Spec. No. and Material Name | Basis of Acceptance | Sample Frequency If Required by the Engineer** | Sample Size | Maximum VI Quantity | Remarks (QPL Reference) |
|---|---|--|---------------------------------------|--------------------------------------|---|
| 919.02A1 Metal Sections (Extruded Aluminum) | Tested Stock See Remark | 1 from each width in shipment | 12 in. long and full width of section | - | Test Data Cert must be attached to the Sample ID form. |
| 919.02A2 Plywood | Gen Cert See Remark | - | - | - | Grade mark on materials serves as certification. |
| 919.02A3 Aluminum Sheet | Tested Stock See Remark | See Note | Min. of 12 in. square | 100 sft | Test Data Cert must be attached to the Sample ID form. |
| NOTE: 2 samples per heat per Tested Stock Supplier up to 10,000 sft; 4 samples per heat per Tested Stock Supplier over 10,000 sft. | | | | | |
| 919.02B1 Reflective Sheeting | QPL See Remark | 1 per run or lot | See Remark | 1 roll, for less than 3 in. in width | Must be a Qualified Product (919.02B1) 4 pcs each 12 in. square. For rolls less than 12 in. width, at least 7.5 ft. |
| 919.02C Sign Hardware | Gen Cert See Remark | - | - | - | Identifying marks on items may serve as certification. |
| 919.03A Delineators 1. Plastic Reflectors | Gen Cert | 1 per shipment per color | 21 pcs | 25 pcs each color | |
| 919.03B Delineators 2. Reflective Sheeting Reflectors | Gen Cert | 1 per shipment per color | 2 pcs each color | 25 pcs each color | |
| 919.03D Delineator Posts 1. Steel | Gen Cert | 1 per project per mfr | 1 post | 80 post | |
| 919.03D Delineator Posts 2. Plastic | QPL | - | - | - | Must be a Qualified Product (919.03D). |
| 919.04 Steel, Galvanized Sign Posts | Test Data Cert | 1 per project per mfr | See Remark | 20 posts | Sample 30 in. length min. length. Posts for temporary signs may be painted. |
| 919.05 Wood Sign Posts | Appr Mfr * or Tested Stock | Each charge | 22 cores | 20 posts | General Cert to Construction Field Services. See 912.08. |
| 919.06 Break-Away Column Sign Supports | Fabrication Inspection & VI See Remark | - | - | - | MQAP Manual Section 4.06 and Subsection 919.06 of the Standard Specifications. VI must be conducted upon delivery to jobsite. |

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| Spec. No. and Material Name | Basis of Acceptance | Sample Frequency If Required by the Engineer** | Sample Size | Maximum VI Quantity | Remarks (QPL Reference) |
|--|---|--|-------------|---------------------|---|
| 919.07 Sign Support Structures Cantilever, Overhead Lane Assignment, Truss and Bridge Sign Connections | Fabrication Inspection & VI See Remark | - | - | - | MQAP Manual Section 4.06. VI must be conducted upon delivery to jobsite. |
| 920.02 Glass Beads | Gen Cert | 1 from each lot | 2 lb | 500 lbs | |
| 921.02 Span Wire | Gen Cert | 1 per size | 3 ft | - | |
| 921.03 Traffic Signals and Mounting Assemblies | See Note | - | - | - | |
| NOTE: Compliance with specifications will be determined by the agency responsible for maintaining the system. Agency must provide the project engineer with a memo or other appropriate form indicating that the inspection has been made and the material is acceptable. | | | | | |
| 921.05 Traffic Signal Strain Poles | VI & Test Data Cert | - | - | - | VI must be conducted upon delivery to jobsite. |
| 921.05A Strain Pole Band Clamps | QPL | - | - | - | Must be a Qualified Product (921.05A). |
| 921.08B Traffic Loop Sealant | Gen Cert | 2 from each lot | Tubes | - | |
| 922.02 Temporary Traffic Control Temporary Signs | Gen Cert See Remark | - | - | - | See section 922.01 of the 2012 Standard Specifications for Construction. |
| 922.02B Temporary Traffic Control Reflective Sheeting (Signs) | Gen Cert See Remark | - | - | - | See section 922.01 of the 2012 Standard Specifications for Construction. ASTM D4956 Type VIII prismatic sheeting or higher. |
| 922.02D Temporary Traffic Control Sign Covers | Gen Cert See Remark | - | - | - | See section 922.01 of the 2012 Standard Specifications for Construction. |
| 922.03 Temporary Traffic Control A. Cones B. Drums | Gen Cert See Remark | - | - | - | See section 922.01 of the 2012 Standard Specifications for Construction. |
| 922.03E Temporary Traffic Control Type III Barricade, Reflective Sheeting | Gen Cert See Remark | - | - | - | See section 922.01 of the 2012 Standard Specifications for Construction. |

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|--|---------------------------------|--|-------------|---------------------|--|
| 922.04 Temporary Traffic Control Temporary Concrete Barriers (TCB) | Test Data Cert See Remark | Each project | - | - | Contractor testing and Cert Verification per MTM-716 & NCHRP 350/MASH, for TCB with steel wire rope or steel bar pin and loop connections. For other TCB connections - Gen Cert – pull testing per MTM 716 not required. |
| 922.04A Barrier Reflector Markers Temporary and Permanent | Gen Cert See Remark | - | - | - | See section 922.01 of the 2012 Standard Specifications for Construction. |
| 922.06A Temporary Traffic Control Temporary Pavement Markings; Type R and NR Tape | QPL | - | - | - | Must be a Qualified Product (922.06A). |
| 922.06A2 Temporary Traffic Control Temporary Pavement Markings; Paint | QPL | - | - | - | Must be a Qualified Product (811.03D). |
| 922.06B Temporary Traffic Control Temporary Raised Pavement Markers | QPL | - | - | - | Must be a Qualified Product (922.06B). |
| 922.07A Temporary Traffic Control Lighted Arrows; Type B and C (Solar Assist) | Gen Cert See Remark | - | - | - | See section 922.01 of the 2012 Standard Specifications for Construction. Contractor to allow two week lead time for inspection. |
| 922.07B Temporary Traffic Control Warning Flashers and Lights; Type A, B, C | Gen Cert See Remark | Each project | 3 each type | - | See section 922.01 of the 2012 Standard Specifications for Construction. Units submitted for test when required by project engineer will be returned to the contractor upon completion of testing. |
| 922.07C Temporary Traffic Control Portable Changeable Message Signs | Gen Cert See Remark | - | - | - | See section 922.01 of the 2012 Standard Specifications for Construction. Contractor to allow two week lead time for inspection. |
| 922.11 Temporary Traffic Control Sign Paddles and Vests | VI See Remark | - | - | - | High visibility vest meeting MDOT work zone safety and mobility policy. |

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|---|---------------------|--|---|---------------------|---|
| 922.12A Temporary Traffic Control Dust Palliative 1. Calcium Chloride Solids | Test Data Cert | 1 per project | 5 lb | 5000 lb | |
| 922.12A Temporary Traffic Control Dust Palliative 2. Calcium Chloride Solutions | Test Data Cert | 1 per project | 1 qt | 1000 gal | |
| 923 Watermain Materials | Gen Cert | - | - | 250 ft of pipe | See contract documents as applicable. |
| Misc. #2 Culvert, Cast and Ductile Iron | Gen Cert | - | - | 250 ft | |
| Misc. #3 Clay Pipe | Gen Cert | See Remark | See Remark | 10 pieces | See Special Instructions. |
| Misc. #5 Galvanized Slotted Drain Pipe | VI See Remark | - | - | - | MDOT approval of Design is required. Coating thickness checked at project site. |
| Misc. #7 ABS Pipe | Test | 1 per 6000 ft | 1 piece, 6 ft in length | 600 ft | If bell and spigot joint, sample from bell end. |
| Misc. #8 Corrugated Galvanized Steel Structural Plated | Gen Cert | 1 per 100 plates or fraction thereof | 1 piece at least 3 in. by 3 in. | 10 plates | |
| Misc. #9 Aluminum Alloy Structural Plates | Gen Cert | - | - | - | |
| Misc. #13 Pavement Warning Strips | VI | - | - | - | |
| Misc. #14 Bituminized Cotton Fabric and Fiberglass Fabric | Gen Cert | See Remark | 1 piece full width of roll, min of 3 ft | 5 rolls | 1 per 100 rolls (50 sft per roll) or fraction thereof; for lots of more than 100 rolls - 1 sample plus 1 for each 500 rolls or fraction thereof. Do not sample from first 3-4 ft of roll. |
| Special Provision #1 Liner for Culverts A. Polyethylene Plastic Pipe | Gen Cert | - | - | - | |
| Special Provision #2 B. Reinforced Plastic Mortar Pipe | Gen Cert | - | - | - | |
| Special Provision #3 Railroad Ballast | Test | 1 per 5000 ton | 60 lb | 500 tons | See UPTRAN Specifications for Trackwork. |

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|--|-----------------------------------|---|----------------|---------------------------|--|
| Special Provision #6 Truck Mounted Attenuator | Gen Cert | - | - | - | See Special Provision in Contract. |
| Special Provision #7 Traffic Signal Mast Arm Pole and Mast Arm (Trunkline) | Fabrication Inspection & VI | - | - | - | See MQAP Manual Section 4.11. VI must be conducted upon delivery to jobsite. |

***** See following pages for SPECIAL INSTRUCTIONS *****

SPECIAL INSTRUCTIONS

901 Cement

Certification Verification Sampling Schedule - Per the following

| <u>Quantity of Concrete to State Projects (per week)*</u> | <u>Frequency</u> |
|---|--------------------|
| Less than 500 cyds | 1 per 1000 cyd |
| 500 cyds to 2000 cyds | 1 every month |
| 2000 cyds to 6000 cyds | 1 every other week |
| Over 6000 cyds | 1 per 12,000 cyd |

*Quantity estimated and based upon work in area, season of the year, orders, past experiences, etc.

Certification Verification samples of fly ash and slag cement must be obtained at random from shipments to MDOT projects for each source authorized to certify. The Region materials staff must sample once for each five CV samples of Portland cement, per plant. The sample must be accompanied by a sample of the Portland cement with which it is being used. The plastic lined cement sample bags furnished by the laboratory will hold 10 pounds when full.

902 Prequalified Aggregate Sources

Quality Assurance tests will be conducted by Department personnel at the frequencies stated in Section 3.04.08 of the *Pre-Qualified Supplier Program*, found in the *Materials Quality Assurance Procedures Manual*.

Every Project Engineer will verify passing quality assurance tests by contacting the Region/Transportation Service Center's Material's Supervisor. Enter a telephone record memo or copy of the test report in the project file.

The statement on each delivery ticket required in Section 3.04.05.B of the *Pre-Qualified Supplier Program*, is to be provided by the supplier, and represents the results of quality control testing. This statement does not signify acceptance by MDOT.

904.03A Asphalt Binder for HMA Mixtures

If the Asphalt Binder is supplied from a source currently on the Approved Binder Supplier List a general certification is required. See the contract documents for sampling, acceptance, and daily monitoring requirements.

If the binder is supplied from a source that is **not** currently shown in the Approved Binder Supplier List, the binder must be sampled, tested, and approved for use prior to incorporation into the project. See contract documents for sampling, acceptance, and monitoring requirements.

See Current List of Asphalt Binders at Construction Field Services Web Page.

Instructions to Construction Field Services web page: From MDOT home page (michigan.gov/mdot), click on about MDOT (left side), then click on Highway Field Services, and then click Construction Field Services. The Approved Asphalt Binder Suppliers List is under Resources & Publications.

Actual Current List of Asphalt Binders web page address:
http://michigan.gov/documents/AppBinderCertlist_49824_7.pdf

904.03C Emulsified Asphalt

Size of Sample – For CV Sampling see Section 3.06.06 of the *Materials Quality Assurance Procedures Manual*. For all other sampling see contract documents for criteria. Submit the samples in plastic containers only.

909.04A Reinforced Concrete Pipe

909.04B

Size of Sample - Full size units for strength test. For absorption tests, 26-inch square to 81-inch square in area from the wall of each piece of pipe tested.

Number of Samples - One percent of the number of pieces of each size.

Reinforced concrete pipe 42-inch diameter and larger may be tested by coring. Size of core will be 4-inch nominal diameter (but not less than 3 ¼ inches actual). Up to 1 percent of the number of pieces of pipe for each size, but not less than 3 pieces, will be selected for coring. One core will be drilled and tested from each of these test pieces. Reinforcement will be inspected prior to incorporation in the pipe.

Maximum for VI – 5 pieces of 42" diameter and smaller.

909.04C Nonreinforced Concrete Pipe

Size of Sample - Same as reinforced concrete pipe.

Number of Samples - One percent of the number of pieces, but not less than 2 pieces of each size except that at the option of the department the following sampling schedule will apply for 4 inches through 24 inches in diameter sewer pipe for quantities of 500 or more:

Sampling Schedule - Per the following:

| <u>Concrete Pipe</u> | <u>Number of Samples</u> |
|-----------------------|---|
| 500 to 1,000 pieces | 6 |
| 1,001 to 2,000 pieces | 8 |
| 2,001 to 5,000 pieces | 11 |
| Over 5,000 pieces | 2 samples per 1,000 or fraction thereof |

Maximum for VI – 10 pieces.

909.05A Corrugated Steel Pipe

Size of Sample - A 6-inch by 3-inch (minimum) section cut from the pipe. The sample should be taken from the end of the pipe avoiding the seams. Care should be taken to assure the coating is not damaged during sampling.

Number of Samples - Per the following:

| <u>Diameter of Pipe</u> | <u>Quantity Represented (maximum)</u> |
|-----------------------------|---------------------------------------|
| 12 inches or less | 2500 ft |
| 15 inches through 54 inches | 1000 ft |
| 60 inches and over | 500 ft |

Less than 5 percent of the quantity in the above table may be visually inspected.

909.05A1 Corrugated Galvanized Steel Sheets

Size of Sample - One strip the full width of the sheet and 3 ½ inches in the direction of the length of the sheet. The strip may be cut from the end of the sheet for material coated in coils. If the sheets were individually coated after being cut to length, as indicated by heavy accumulations of zinc at one end, the sample strip shall be cut from the end opposite the heavy accumulation and after cutting 4 inches from the end of the sheet.

Number of Samples - Per the following:

| <u>Diameter of Pipe (max)</u> | <u>Length of Sheet</u> | <u>Quantity Represented</u> |
|-----------------------------------|---------------------------|-----------------------------|
| 12 inches or less | 44 inches or less | 2500 ft |
| 15 through 54 inches | 50 to 175 inches, approx* | 1000 ft |
| 60 inches and over | 190 inches and over* | 500 ft |

*Larger pipe may be made from combination of shorter sheets. Less than 5 percent of the quantity in the table above may be visually inspected.

NOTE: Normally each heat and thickness is to be sampled. Exception may be made where quantities are limited and/or mixtures of heat numbers are excessive.

909.05B Corrugated Aluminum Alloy Sheets

Size of Sample - A transverse strip full width of the sheet and at least 3 inches in length cut from the end of the sheet.

Number of Samples - A sample shall be taken from each of 3 different sheets for lots weighing 5 tons or less, from 4 sheets for lots weighing more than 5 tons and less than 10 tons, and from 5 sheets for lots weighing 10 tons or more.

Maximum for VI – 25 sheets.

909.06 Corrugated Polyethylene Pipe (Smooth Lined Type S or Corrugated Type C)

Sampling Frequency - Straight Lengths, 12-inch diameter and over - 1 per 1000 ft

If the manufacturer has developed a history of five consecutive passing tests over the past two years for a given diameter of pipe (12 to 24-inch), at the discretion of the MDOT testing laboratory the sampling frequency may become 1 per 2500 ft for that diameter of pipe provided the stockpile consists of pipe manufactured with a single "Plant" and "Date" code. The Tested Stockpile sampling frequency of one sample per 1000 ft of pipe (12 to 36-inch) may be re-instituted if the manufacturer experiences three failing test results for a given diameter of pipe over a one year period. Up to date information on sampling frequency may be acquired from MDOT's Construction Field Services Division.

Size of Sample - Over 12-inch diameter - one 10-ft length and one 6-ft length plus coupling

Maximum for VI - 12-inch diameter and over - 100 ft

For perforated pipe wrapped in geotextile fabric, tie fabric securely in place on sample before cutting pipe sample. Do not disturb fabric after cutting.

Suppliers shall provide MDOT inspector with list of date codes on pipe in stockpile to be tested prior to sampling.

Each size pipe is a different material. Stockpile each pipe size separately.

Perforated Pipe

Twelve inches in diameter and above shall be tested for acceptance on a project-by-project basis when specified by Special Provision (No Tested Stock).

Soil tight sleeves shall be submitted with a pipe section 12 inches minimum length and gasket fully inserted into one end of the sleeve. A second gasket shall be supplied already installed on either the 10-ft specimen or on a separate specimen at least 12 inches in length, from the same stockpile.

Single Gasket Bell and Spigot Fused Coupling System - Couplers shall be submitted as attached part of 10-ft specimen and a second piece of the specimen, minimum of 12 inches in length, with gasket installed shall be included with the sample.

Each size pipe is a different material. Stockpile each pipe size separately.

For perforated pipe and tubing wrapped in geotextile fabric, tie fabric securely in place on sample before cutting pipe sample. Do not disturb fabric after cutting.

910.03 Geotextiles

Sampling Frequency - Obtain Certification Verification samples to represent the required quantity of geotextile according to the following schedule:

| <u>Geotextile</u> | <u>First Sample</u> | <u>Additional Samples</u> |
|-------------------------|---------------------|---------------------------|
| Blanket | 360 to 1200 syd | 7,500 syd or less |
| Liner for Riprap | 360 to 1200 syd | 5,000 syd or less |
| Separator/Stabilization | 360 to 1200 syd | 25,000 syd or less |
| Liner for Heavy Riprap | 360 to 1200 syd | 4,000 syd or less |

Maximum for VI - 360 syd (3240 sq ft)

Size of Sample - Sample must be a minimum of 3 feet long by the full roll width, with a 3 syd minimum.

NOTE: Woven geotextile must be **rolled**, not folded, and shipped in a manner to prevent creases in the fabric.

914.05 Epoxy Binder, For Joint Spall Repair

Normal Sampling Frequency - 1 per lot or batch number

Size of Sample - For material mixed at 1:1 ratio - 2 quart, 1 quart of each component: For material mixed at 2:1 ratio - 1/2 gallon of resin and 1 quart of curing agent. Material limited to shelf life of one year from date of manufacture. Material must be labeled with date of manufacture. MAY BE "TESTED STOCK" ITEM.

Maximum for VI - 5 gallons

914.07 Load Transfer Assemblies; Dowel Baskets

Sampling Frequency - 1 per 3000 assemblies

Size of Sample - One full assembly

Assemblies must meet the requirements of Standard Plan, R-40-H.

All shipments of load transfer assemblies will be accompanied by proper certification documentation.

- Certification from steel (dowel bar) manufacturer.
- Certification from epoxy coating company.
- Documentation on epoxy coating.
- Certification from assembly manufacturer.
- Documentation on bond release.

When shipment is made to a project, each bundle will bear a legible tag with the following information:

- Assembly manufacturer name and plant location.
- Control section/project number.
- Lot number or other identification that will also be shown on the accompanying certification.
- Supplier and/or contractor's name.

917.12 Grass Seed Mixture Sampling Information

Sample - For lots of 1 to 6 bags, sample each bag. For lots of more than 6 bags, sample 5 bags plus at least 10 percent of the bags in the lot. It is not necessary to sample more than 30 bags in any single lot.

NOTE: Samples are to be sent to the Roadside Development Section of the Design Division.

Acceptance by the Project Engineer is based on original, sewn-on bag tickets for verification of quantity and source of seed. The guaranteed analysis on the ticket will constitute the certification of this product by the Approved Manufacturer. This analysis must have been completed within one year of the placement of the mixture.

Maximum for VI – 100 lbs.

Misc. #3 Clay Pipe

Normal Sampling Frequency - One percent of the number of pieces, but not less than 2 pieces of each size except that at the option of the department the following sampling schedule will apply for 4-inch through 24-inch diameter sewer pipe for quantities of 500 or more:

Sampling Schedule - Per the following:

| <u>Clay Pipe</u> | <u>Number of Samples</u> |
|-----------------------|---|
| 500 to 1,000 pieces | 6 |
| 1,001 to 2,000 pieces | 8 |
| 2,001 to 5,000 pieces | 11 |
| Over 5,000 pieces | 2 samples per 1,000 or fraction thereof |

Size of Sample - Full size units for strength test. For absorption tests, 26 inches square to 82 inches square in area from the wall of each piece of pipe tested.

Maximum for VI - 10 pieces